M/037/084

State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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August 2, 1995

Glen Williams
Manager, Western Slope Operations
Cotter Corporation
P.O. Box 700
Nucla, Colorado 81424

Re: Review of Large Mining Operations Notice of Intention, Cotter Corporation (Cotter), Papoose Mine, M/037/084, (ML45609) San Juan County, Utah

Dear Mr. Williams:

The Division has completed a review of your Notice of Intention to Commence Large Mining Operations for the Papoose Mine, located in San Juan County, Utah, which was received May 26, 1995. After reviewing the information, we have the following comments which will need to be addressed before tentative approval may be granted. The comments are listed below under the applicable Minerals Rule heading. Please format your response in a similar fashion.

R647-4-105 - Maps, Drawings & Photographs

105.3 Drawings or Cross Sections (slopes, roads, pads, etc.)

Exhibit F "Papoose Limestone Mine Reclamation Plan" does not contain a scale for the portion of the drawing showing the mining and reclamation sequence. Please inform us of the proper scale or provide another version of this map which includes a scale. (AAG)

Exhibit F shows one side of the pit highwall as being backfilled to achieve a 45° angle while the other highwall side is left vertical along the road. We assume this highwall configuration is meant to depict concurrent reclamation during operations. Since Cotter did not request a variance to the highwall stabilization requirements we interpret this to mean that both sides of the pit highwall will be backfilled to achieve an angle of 45° or less at the time of final reclamation. Please confirm this assumption or provide additional details describing the configuration of pit highwalls after final reclamation has been completed. (AAG)

R647-4-106 - Operation Plan

106.3 Estimated acreage disturbed, reclaimed, annually

Exhibit F and page five of the mine plan text indicates Cotter plans to reclaim some disturbed areas concurrently after the third year of mining. The amount of area which could be reclaimed is not described in writing or measurable off the exhibit because the drawing scale is unknown. Please provide an estimate of the annual disturbed acreage to be concurrently reclaimed. (AAG)

106.6 Plan for protecting & redepositing soils

Topsoil piles that will remain for more than a few weeks before being redistributed for reclamation need to be protected from wind/water erosion by seeding, mulching, tackifying, etc. Also, all topsoil piles need to be appropriately signed to prevent accidental usage, excess compaction or contamination. Please provide a narrative describing how stockpiled topsoil will be protected. (LMK)

106.9 Location & size of ore, waste, tailings, ponds

Page three of the mine plan indicates the storage pad will occupy 0.67 acres, but no volume of ore being stockpiled on site is mentioned. Please provide an estimate of the ore (cubic yards or tons) which will be stockpiled on site during operations. (AAG)

R647-4-107 - Operation Practices

107.1 Public safety & welfare

107.1.12 Disposal of trash, scrap, debris

Page three of the mine plan states all mine related trash will be disposed of on site or removed from the property at the end of operations. Page five of the mine plan states any buildings will be moved off site, salvaged or demolished and covered over in the pit. The Division will require the placement of at least 3 feet of cover over any non-hazardous debris which is buried on site. The onsite disposal/burial of debris may also require approval from the School and Institutional Trust Lands Administration (SITLA). Has Cotter applied for an onsite disposal permit with the Utah Division of Solid and Hazardous Waste? (AAG)

107.3 Erosion control & sediment control

The plan discusses having a storm water permit (UTR000257), yet the plan exhibits do not show any impoundments or associated surface water control structures. Is this just an approved storm water handling plan? The operator proposes berms and

water bars to prevent erosion during revegetation. Division experience and onsite observations have shown that concentrating surface runoff by using water bars, or berms may contribute to increased erosion in selected areas rather than prevent it. It is often more effective to create a very roughened, and undulating reclaimed surface to promote water harvesting on a micro scale. This will help prevent the concentration of water over long slopes and at water bar or berm outlets. Berms can be advantageous if used to prevent water from cascading off of roads onto steep slopes, or by intercepting and rerouting undisturbed area drainage away from disturbed or reclaimed areas. Roads and pads normally generate the most runoff and subsequently should be a major consideration in any storm water management plan. All berms must be installed along the contour and have protected outlets. A small depression/settling basin with a riprapped outlet works well, assuming sufficient space is available to construct the runoff control structure.

Exhibit B shows a silt fence placement. It may be more advantageous to use a structure requiring less maintenance, like a surface depression with a rock check dam outlet. A good gradation of rocks 6-24 inches in diameter should be used. If this is placed in an area where reasonable access can be obtained with a small front end loader, then routine maintenance and sediment removal would be easy to perform. The structure could remain intact over the life of the project. It is important that the crest of the outlet/overflow of the check dam or silt fence be kept below the top elevation of the dam. This will help prevent storm water from going around the either end of the check dam or silt fence and washing out the structure.

If a silt fence or rock check dam are used, they need to be well keyed into the bed and banks of the impounding/settling area to prevent undercutting. For additional design considerations or ideas regarding the safe and effective handling of storm water, please contact Tom Munson of the Minerals staff. (TM)

107.4 Deleterious material safety stored or removed

Page three of the mine plan states a fueling station has been established within a bermed area to control spillage. Is the fueling station located on an impermeable liner or just within an area of earthen berms? How many fuel tanks will be located on site? What will their contents be and what volume will be stored on site? Is Cotter required to have a Spill Prevention and Control Plan for this fuel facility as part of the permit with the Division of Water Quality? Please describe the manner of storage and the storage location of any blasting agents which are stored on site. (AAG)

107.5 Suitable soils removed & stored

The Natural Resources Conservation Service has provided some general soils information. However, the Division needs the following specific information to

fully evaluate the adequacy of reclamation plans. Please provide a soil analysis which includes: pH, % organic matter, Total Nitrogen, Phosphorus and Potassium. Based on this analysis, fertilizer and/or other amendments may be required. (LMK)

107.6 Concurrent reclamation
See comments under sections 106.3 and 106.6. (AAG)

R647-4-109 - Impact Assessment

109.1 Impacts to surface & groundwater systems

The operator has addressed impacts to the surface and groundwater resources. With some refinement of the surface water handling plan, impacts from this operation will be minimal or nonexistent. (TM)

109.4 Slope stability, erosion control, air quality, safety

The application discusses erosion control and with the incorporation of some minor changes, as described under section 107.3 above, the plan will satisfy the erosion control impact assessment. (TM)

R647-4-110 - Reclamation Plan

110.5 Revegetation planting program

The proposed revegetation seed mix is not expected to provide a diverse vegetation community. After consulting with SITLA, an acceptable seed mix was developed (attached). It is recommended that this seed mix be incorporated into the reclamation plan, or you will need to provide an alternative seed mix that provides a similar vegetative diversity. (LMK)

It appears that the plan for reducing the highwall is to bring it to a 45-degree slope (1:1). Establishing vegetation on this steep of a slope will be very difficult. It is suggested that the maximum slope for revegetation purposes be no steeper than 2h:1v and preferably no steeper than 3h:1v. (LMK)

R647-4-111 - Reclamation Practices

111.1 Public safety & welfare
See comment under section 107.1.12. (AAG)

111.9 Dams & impoundments left self draining & stable

Please discuss the disposition of any impounded drainage following mining. No figure or discussion was given regarding final reclamation and its impacts on storm water. Please show the final reclamation contours as related to surface drainage. The suggestions mentioned earlier in section 107.2 about surface roughness and reduction and/or elimination of long slopes go a long way towards promoting revegetation through water harvesting and protecting the soil surface from erosion. (TM)

111.11 Structures & equipment buried or removed

See comments under rule heading 107.1.12. (AAG)

111.12 Topsoil redistribution

Cotter intends to place 12 inches of topsoil over areas to be reclaimed. As topsoil becomes scarce (due to there not being 12 inches of soil available for salvage from the entire area) the operator plans to make 'Islands' of topsoil and maintain the 12 inch depth. This practice is acceptable to the Division and SITLA. However, to extend the area of coverage, it is suggested that 3-4 inches of 'fines' be used as a 'subsoil' base with 8-10 inches of topsoil placed over the fines. (LMK)

R647-4-112 - Variance

Cotter has requested a variance from replacing topsoil over the entire area. The plan is to salvage all available topsoil and to replace it at a uniform depth of 12 inches over a portion of the site in islands or clumps. This would provide for a higher revegetation potential on the topsoiled areas and provide an increase in vegetation production for the entire site as a whole. The Division concurs with this proposal and approves the requested variance. (see also comments under 111.12 Topsoil Redistribution). (LMK)

The Division would encourage Cotter to use any reject fines as a soil substitute during concurrent reclamation or at the time of final reclamation for areas which are outside of the topsoil "islands". (AAG)

R647-4-113 - Surety

This project is entirely located on lands under the jurisdiction of SITLA. In SITLA's July 19, 1995 letter to Cotter, they explained that their surety amount would not be in excess of $5,000 per acre. The actual surety amount will be based on the Division's estimate and adjustments by SITLA for rental and royalty payments. The Division will calculate a reclamation estimate based on the reclamation plan. We will not be able to calculate a reclamation cost estimate until the information requested in this letter has been received. Under our current Memorandum of Understanding, the Division would recognize that portion of the surety posted with SITLA for reclamation. We would not require an

additional surety unless our reclamation cost estimate exceeds the amount calculated by SITLA to reclaim the minesite.

In addition to posting the required surety with SITLA, you will need to complete a Reclamation Contract (Form MR-RC) in order to satisfy Division permitting requirements. A SITLA surety form and a Division Reclamation Contract form and guideline were enclosed with SITLA's July 19, 1995 letter. If you have not yet received these forms, please contact SITLA and the Division for confirmation before proceeding with the surety paperwork. (AAG)

R647-4-115 - Confidential Information

This submission contained no information labeled as confidential. (AAG)

R647-4-116 - Public Notice & Appeals

The Division will suspend further review of the large mining NOI until your response to this letter is received. After the concerns described in this letter have been satisfied, we should be able to publish a formal notice of Tentative Approval which will begin the 30-day public comment period. Following the public comment period, we will present your form and amount of surety to the Board of Oil, Gas and Mining for their approval. If substantive comments are raised during the public comment period, we will need to work with you to resolve the concerns before presenting this matter to the Board for approval. We are aware of your need to begin operations as soon as possible. We will do what we can to try and move this process along as expeditiously as possible.

If you have any questions regarding the requirements outlined in this letter, please contact me, Tom Munson, Tony Gallegos, or Lynn Kunzler of the Minerals Staff. If you wish to arrange a meeting to sit down and discuss this review, please contact us at your earliest convenience. Thank you for your cooperation in completing this permitting action.

Sincerely,

D. Wayne Hedberg

D. Wayne Hedberg
Permit Supervisor
Minerals Regulatory Program

jb
Attachment: Revegetation Species List
cc: John Blake, SITLA
M37-84.RVW

Recommended Revegetation Species List
for

Cotter Corporation
Papoose mine
M/037/084

Common Name	Species Name	*Rate lbs/ac (PLS)
Hycrest crested wheatgrass	*Agropyron cristatum*	1.0
Luna pubescent wheatgrass	*Agropyron tricophorum*	2.0
Paiute orchard grass	*Dactylis glomerata*	0.75
Boizoisky russian wildrye	*Elymus junceus*	1.5
Indian ricegrass	*Oryzopsis hymenoides*	2.0
Ladak alfalfa	*Medicago sativa*	1.5
Yellow Sweetclover	*Melilotus officinalis*	1.0
Palmer Penstemon	*Penstemon palmerii*	0.75
Small burnett	*Sanguisorba minor*	2.0
Wyoming big sagebrush	*Artemisia tridentata wyomingensis*	0.2
4-wing saltbush	*Atriplex canescens*	2.0
Rubber Rabbitbrush	*Chrysothamnus nauseosus*	0.75
Forage Kochia	*Kochia prostrata*	0.75
	Total Seed	**16.2 lbs/ac**

* Rate is recommended for broadcast seeding. if drill seeded, reduce rate by 1/3.

Prepared by DOGM July 12, 1995